MEMO

To: Valerie Knepper, MTC

C: Case Study Cities

Date: April 18, 2007

From: Terri O'Connor/Bill Hurrell

Subject: Parking Profile and Policy Recommendations –Berkeley

Introduction

This memorandum presents the tailored parking demand model results and associated recommendations for Metropolitan Transportation Commission's (MTC) *Reforming Parking Policies to Support Smart Growth Study* for the City of Berkeley. This memorandum includes a parking profile of the study areas based on parking demand, tailored parking rates developed by the parking demand model as well as an overview of final policy recommendations.

Methodology

To estimate the parking demand generation of future developments in Berkeley, WSA developed a parking model that combines pipeline land use predictions with calibrated demand rates for each use type. Existing land use and pipeline project information provided by the City of Berkeley yielded the set of land use types to be examined within the model. Next, peak parking generation rates derived from a variety of sources, including the Institute of Transportation Engineers (ITE) publication *Parking Generation*, the Urban Land Institute (ULI) publication *Shared Parking*, and previous Wilbur Smith Associates parking studies were assigned to each land use. These peak rates represent each use's theoretical demand at its heaviest use time and in the event that every patron drives alone.

These peak rates were subsequently reduced by a series of 'mode split factors' to account for trips made by residents and visitors who walk, bike or use public transit to reach their destination. These factors were derived by comparing Berkeley's transit accessibility, land use mix, and demographics to other Bay Area case studies, as well as by analyzing recent census data for the area.

Additional rate reduction factors were included for each land use based on time-of-day demand shifts (the model calibrates for the weekday midday demand peak) and captive market trips. Captive market trips are those for which the proximity of uses facilitates walking between activities rather than using a vehicle, thereby reducing the demand for parking. In densely developed horizontal mixed-use areas near the BART station, the compatibility of office, retail, and restaurant uses results in a further reduction of the

peak rate. To prevent double counting of parking demand between uses amenable to captive trips, this concept was incorporated into a 'shared parking' factor which further reduces the peak rate.

While the parking demand factors were initially based on standard industry sources, the close examination of observed on-site parking conditions by WSA resulted in closely calibrated parking rates unique to Berkeley. The total number of observed cars parked on-street and off-street at the peak time gives the total demand for the study area land uses at that time. This real-world observed demand was then used to confirm adjustments to the initial rate estimates.

Parking Profile

A parking profile was developed for the Berkeley downtown area based on the current parking demand, expected economic growth, future pipeline projects and parking rates estimated by the parking demand model

Parking Rates

The existing utilization analysis coupled with current land use data provided the basis for developing parking generation rates. These were used to identify shared parking opportunities and complimenting land uses.

Peak Parking Factor

WSA developed parking rates based on the overall district parking demand peak as well by individual land use type peaks. To accurately describe expected peak parking demand, the WSA model calibrates land use demand rates according to their prominence at weekday mid-day.,Several land use types typically exhibit peaks at different time periods of the day and week. This indicates that there is significant potential for shared parking between adjacent land uses with opposing peak demands. Land uses with peaks significantly different than that of the weekday midday include hotel/motel, auto repair, church, theater, indoor entertainment, and museum.

Shared Parking Factors and Internal Trip Capture

The mixed use nature of the districts also provides ample opportunity for internal trip capture (i.e. park once and walk to several destinations). This is highly likely to occur at the peak demand period of lunch time during the work week when local employees already parked walk to lunch and shopping destinations. Internal trip capture or trip chaining is also common in the evening as employees run errands on their way home from work and on weekends as visitors combine shopping, entertainment and restaurant trips. The primary use for the work week was considered to be office related. As such, higher shared parking reduction factors were assigned to secondary uses such as services, retail, theater and restaurant. Additional shared parking factors were assigned to uses such as churches and meeting spaces as the peak use is typically focused to a particular time of the week thus providing a strong opportunity for shared parking at all other times.

Alternative Parking Rates

Parking rates in Table 1 indicate the demand based rates at mid-day mid-week peak as well as the individual peak rates for each land use category at its heaviest use time. Both sets of rates include mode split reduction factors and the shared parking factors inherent in internal trip capture for the district.

The land uses that typically have mid-day midweek peak parking demand have adjusted rates based on the model. The rates the City of Berkeley adopts for major land uses based upon demand in the downtown should range between the demand rates based upon peak demand for the district and the individual peak rates for each land use category. All rates exhibit a marked reduction from the current parking code as indicated in the table. For current uses that have distinct peaks but have demonstrated difficulty sharing parking the higher value in the range should be considered. The range of rates should be provided in the parking code, but the final approval of the rate should be at the discretion of the planning department.

Table 1. Demand Based and Peak Based Parking Rates (parking/unit)

Land Use	Unit	Base Rate	Reduction Factors						Midday Peak Adjusted			Land Use Peak Adjusted			Parking Code
			Peak	Walk	Bike	Transit	AutoOwn	SharedPrk	ST	LT	Total	ST	LT	Total	
Single Family Residential	DU	1.5	1	0	0	0	0	0	0.15	1.35	1.50	0.15	1.35	1.5	1
Multi-Family Residential	DU	1	1	0	0	0	0	0	0.10	0.90	1.00	0.1	0.9	1	0.3
Hotel	Rooms	1.3	0.3	0.1	0.05	0.1	0	0	0.03	0.26	0.29	0.0975	0.8775	0.975	0.3
Retail	kSF	6	0.9	0.1	0.05	0.1	0	0.36	1.90	0.21	2.11	2.106	0.234	2.34	1.5-2
Auto Repair	kSF	2.5	0.5	0.1	0.05	0.1	0	0.27	0.30	0.30	0.60	0.6	0.6	1.2	1.5-2
Restaurant	kSF	15	0.9	0.1	0.05	0.1	0	0.696	0.66	0.07	0.73	0.729	0.081	0.81	1.5-3.3
Banks	kSF	4.5	0.9	0.1	0.05	0.1	0	0.24	1.86	0.21	2.07	2.0655	0.2295	2.295	1.5-2
Office-General	kSF	3	0.8	0.1	0.05	0.1	0	0	0.54	1.26	1.80	0.675	1.575	2.25	1.5-2
Office-Government	kSF	3	0.9	0.1	0.05	0.1	0	0	0.41	1.62	2.03	0.45	1.8	2.25	1.5-2
Office-Medical	kSF	5	0.7	0.1	0.05	0.1	0	0	1.05	1.58	2.63	1.5	2.25	3.75	1.5-3.3
Church	kSF	10	0.1	0.1	0.05	0.1	0	0.6	0.08	0.08	0.15	0.75	0.75	1.5	NA
Theater	kSF	5	0.1	0.1	0.05	0.1	0	0.168	0.23	0.06	0.29	2.328	0.582	2.91	NA
Fast Food	kSF	12	0.9	0.1	0.05	0.1	0	0.48	2.62	0.29	2.92	2.916	0.324	3.24	0.2
Convalescent	kSF	1	1	0	0	0	0	0	0.40	0.60	1.00	0.4	0.6	1	0.33
Indoor Entertainment	kSF	4.5	0.2	0.1	0.05	0.1	0	0.2	0.40	0.10	0.50	1.98	0.495	2.475	1.5-2
Conference/ Meeting	kSF	3	0.8	0.1	0.05	0.1	0	0.1	0.78	0.78	1.56	0.975	0.975	1.95	1.5-2
Museum	kSF	2.1	0.2	0.1	0.05	0.1	0	0.2	0.18	0.05	0.23	0.924	0.231	1.155	1.5-2
Community College	kSF	1.2	0.9	0.1	0.05	0.1	0	0	0.65	0.16	0.81	0.72	0.18	0.9	1.5-2
Commercial-Other	kSF	3	0.9	0.1	0.05	0.1	0	0	0.41	1.62	2.03	0.45	1.8	2.25	1.5-2
Berkeley High School		NA													NA
Library	kSF	3.5	0.7	0.1	0.05	0.1	0	0.3	0.99	0.11	1.10	1.4175	0.1575	1.575	2

Sources: Wilbur Smith Associates, April 2007. Berkeley Municipal Code (23E)

Parking Demand

Impact of Future Developments

There are ten developments in the pipeline in and around the downtown Berkeley study area that will have an impact on the areas parking demand. They are organized into residential mixed use, hotel mixed use and civic related projects, and include:

Residential Mixed Use Projects:

- Seagate, 2041 Center Street:
  - 149 units residential, 5800 SF retail, 12,000 SF arts
- Brower Center, 2200 Oxford Street:
  - 96 units residential, 3000 SF retail, 33,000 SF office, 4600 SF conference
- Library Gardens, 2020 Kittredge Street:
  - 176 units residential, 3000 SF retail
- Fine Arts, 2451 Shattuck Avenue:
  - 100 units residential, 12,000 SF retail
- Trader Joes Mixed Use, 1885 University Avenue:
  - 148 units residential, 14,400 SF retail
- Act I& Act II Patrick Kennedy, 2128 Center Street:
  - 20 luxury residential units

Hotel Mixed Use Projects

Berkeley Inn, 2001 Bancroft:

- 27 hotel rooms

Berkeley Charles Hotel

- 50 residential units, 210 hotel rooms, 26,000 SF retail, 16,000 SF conference,

Civic Projects

- Berkeley Art Museum, Oxford Street: 150,000 SF museum space
- Berkeley High School South, Milvia Street:
  - 14,500 SF classroom, 16,000 SF gym, 13,400 SF stadium

The aforementioned pipeline projects are summarized by land use in Table 2:

Table 2. Total Pipeline Development

	Units or rooms	Square Feet
HOUSING	719	
HOTEL	237	
RETAIL		64,155
CONF MTG		20,600
OFFICE		33,000
PUBLIC		162,067
SCHOOL CIVIC		45,000
TOTAL development		746,923
Total Parking Provided		888-1099

Source: City of Berkeley, March 2007
Notes: Housing and Hotel Units not included in development total

Table 3 summarizes the existing and projected parking demand for the downtown Berkeley area using the rates developed by the parking model.

Table 3. Existing and Projected Parking Demand

Land Use	Existing Demand			Future Demand		
	Total	ST	LT	Total	ST	LT
Auto Repair	45.4	22.7	22.7	45.4	22.7	22.7
Banks	58.0	52.2	5.8	58.0	52.2	5.8
Berkeley High School	---	---	---	---	---	---
Church	5.7	2.9	2.9	5.7	2.9	2.9
Commercial-Other	207.8	41.6	166.2	207.8	41.6	166.2
Community College	22.8	18.3	4.6	22.8	18.3	4.6
Fast Food	247.2	222.5	24.7	247.2	222.5	24.7
Hotel	27.4	2.7	24.7	96.7	9.7	87.1
Library	22.7	20.4	2.3	22.7	20.4	2.3
Multi-Family Residential	1878.0	187.8	1690.2	2449.0	244.9	2204.1
Office-General	1600.7	480.2	1120.5	1660.1	498.0	1162.1
Office-Government	254.4	50.9	203.5	254.4	50.9	203.5
Office-Medical	265.4	106.1	159.2	265.4	106.1	159.2
Restaurant	128.4	115.6	12.8	128.4	115.6	12.8
Retail	854.3	768.8	85.4	959.1	863.1	95.9
Single Family Residential	255.0	25.5	229.5	285.0	28.5	256.5
Theater	39.5	31.6	7.9	39.5	31.6	7.9
Conference/Meeting Space	---	---	---	32.1	16.1	16.1
Indoor Entertainment	---	---	---	6.0	4.8	1.2
Museum	---	---	---	34.7	27.7	6.9
TOTAL	5912.8			6820.05		

Pricing

If used as part of a complete parking management program, pricing can help control the timing of the eventual or potential need for building a parking structure. WSA assumed 2-stage graduated pricing with a price increase prior to the commencement of pipeline development and a price increase during development. The price graduation reduced the overall demand by 4 percent. A pricing increase during development reduced anticipated demand from 6,820 to 6,225 spaces, however the demand for short term reduced by 12 to 14 percent or approximately 300 spaces. The effects of graduated pricing on parking demand are shown in Figure 1.

WSA assumed that pricing would be increased under current conditions prior to the commencement of major pipeline development projects. WSA simulated an on-street/off-street pricing differential by increasing short term parking pricing at existing and future conditions and leaving off-street pricing static. The assumption was that the true demand for longer term parking would go to off-street facilities as on street parking would be preserved for short term users. The assumptions for the pricing module are summarized in the Table 4.

Figure 1. Pricing Effect on Parking Demand

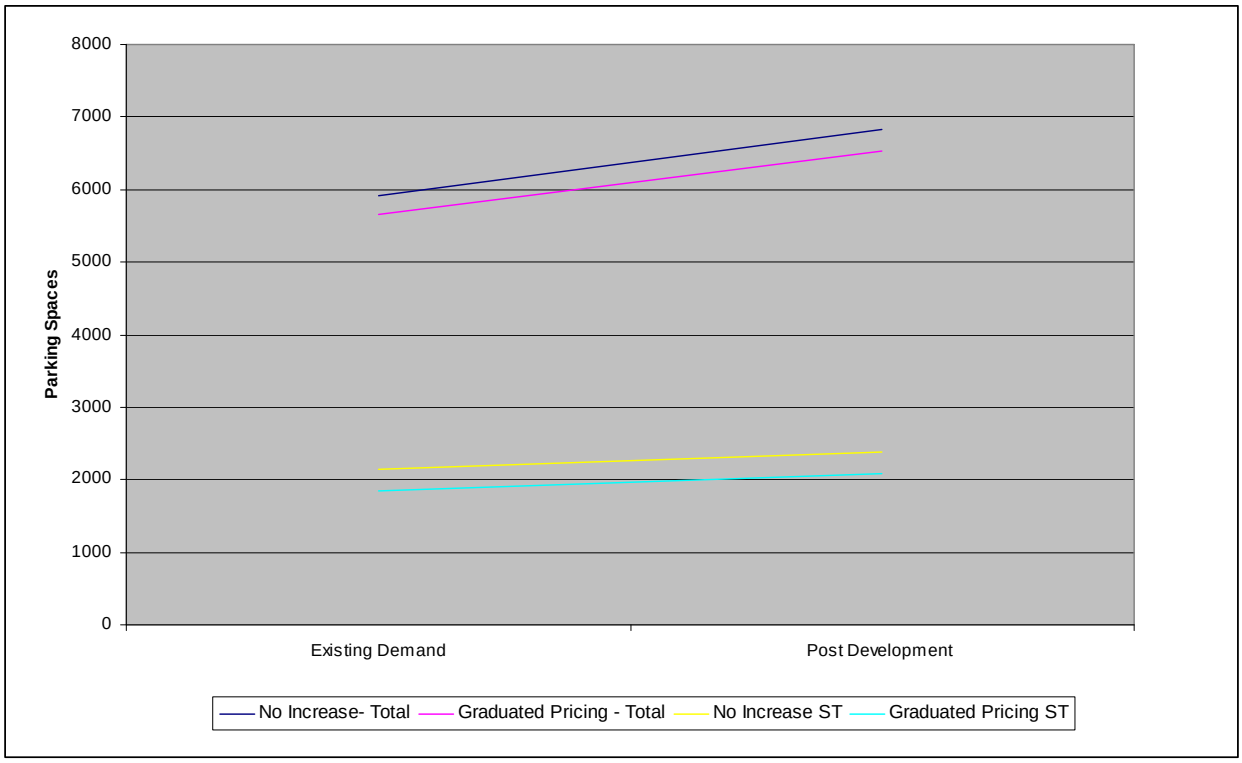

Table 4: Price Module Assumptions			
		Short Term Parkers	Long Term Parkers
Existing	Inconvenience	7%	NA
	Elasticity (low/med/high)	15% medium	NA
	% Increase	33%	NA
Development	Inconvenience	7%	NA
	Elasticity (low/med/high)	15% medium	NA
	% Increase	66%	NA

Source: Wilbur Smith Associates, April 2007.

It is assumed the inconvenience of paying for parking significantly on short-term parkers and will immediately discourage a small percent due to lack of proper currency or need to stay longer than maximum time limits. Initially elasticity will be expected to be higher in an area with no pricing experience and demand reduction will be observed almost immediately. Overall long term parkers will be the most sensitive to pricing in the on-street spaces and will be most likely to shift to off-street facilities both under existing and pipeline conditions.

Policy Recommendations

The City of Berkeley has established several smart growth enabling policies and programs in its Specific Plan; as a result, there are several smart growth strategies where the City has already laid important groundwork. There are, however, several more implementable strategies available to the City based on its goals, and innovative smart growth programs and policies that have been executed in communities throughout the Bay Area and North America should be considered.

Non-motorized Connectivity

The City of Berkeley highlights the importance of fostering connectivity between the downtown BART Station and other areas in its General Plan and Downtown Plan. The City should reinforce its existing policies and programs to enhance non-motorized connectivity within the downtown, especially in light of interest in use of parking pricing to balance supply and demand, encourage use of alternative modes, and discourage long-term parking at street meters intended for business customers. As the stakeholder interviews show, the feasibility of an on-street price revision may hinge in part on new support for transit and TDM options for employees. As such, federal funding for these enhancements through MTC's Transportation for Livable Communities (TLC) grant program should be considered as one example of many of funding sources available for these types of programs. Enhancements include but are not limited to:

- Bike lanes and bicycle parking amenities
- Pedestrian amenities such as: wider sidewalks, pedestrian scaled lighting, seating, street trees, enhanced crosswalks
- Connections to local and regional bike paths/trails

Additionally, the FHWA Value Pricing program not only supports parking pricing innovations but packages of transit and TDM improvements to maximize effectiveness and acceptance of pricing. A recent TDM study for the City enumerates many TDM options, but priority should be given to those most easily implemented and of most interest to employers and employees in light of recommended new parking pricing policies. Discounted transit passes may be of interest in this regard.

Transportation Demand Management (TDM)

TDM strategies are designed to address traffic congestion by reducing travel demand and focus on travel alternatives such as increased transit usage, walking, and bicycling to help achieve this goal. The Berkeley Downtown Business Association can adopt a TDM program by pooling various small businesses together to offer commute trip benefits to their employees such as transit passes, car-sharing memberships, paid carpool parking spaces in off-street facilities, and effectively reduce the demand for single occupancy vehicle travel. One way to support these alternatives as well as street improvements, cleaning, lighting and security is through a fund financed in part from the increment of new revenues from revised on-street pricing and managed by a City in consultation with an advisory business committee. Other possible sources of funding suggested by the Transportation Commission for consideration include increased parking tax and transportation fees.

Adjustment to Parking Enforcement Times

The mix of commercial and major institutions such as UC Berkeley, the Berkeley Repertory Theater and School of Theatre, the Aurora Theater Company, and several movie theaters make the downtown a heavily visited and patronized area. The synergy between the theaters, restaurants, and events held in this area result in a significant number of visitors until late evening. As such, parking enforcement times should be adjusted to reflect the demand for parking generated by these uses during the later evening hours. Notably, operational times are recommended to be extended from their current operational period (9:00 AM to 6:00 PM) to 9:00 AM to 10:00 PM.

Additionally, if a revised on-street pricing program is adopted, enforcement should be increased to guard against meter feeding beyond time limits (consistent with T-34H), unless time limits are removed under escalating rates easily programmed at pay display machines. Shattuck Avenue would be the logical first step test area for this approach. Again, FHWA can support enhanced enforcement under its Value Pricing program during a demonstration period.

Parking District

Parking Districts are areas where the fees from on-street parking, development, or tax assessments are used to fund improvements to enhance parking conditions in a defined area, as referenced above for Old Pasadena. Such a district may be employed in a number of ways in downtown Berkeley, the following are some options:

- **Benefit** – The district could provide benefits to the area where it is implemented. As such, revenue could be collected from on-street parking meters and used to provide benefits such as street sweeping, sidewalk cleaning, lighting enhancements, or security measures.

- **Assessment** – The district could also require new development to pay a fee in the form of taxes or in-lieu fees. Developers could be allowed to pay fees in lieu of providing the amount of required parking. The funds could then be used for district improvements, parking structure, etc.

A key component to successfully implementing a parking district includes community outreach and involvement. Ignoring this often translates into community opposition and becomes a constraint on adoption and acceptance of innovative programs. As such, key stakeholders should be included in the parking district planning process as they offer valuable insight into community concerns and help gauge receptivity.

Graduated On-Street Pricing

Parking occupancy data in the downtown indicates that a large percentage of streets in the downtown operate at or near full capacity during the midday and evening periods. As such, a graduated on-street pricing scheme should be a top priority consideration for the City of Berkeley for several reasons. Not only are there consistent and multiple adopted policies supporting this action (e.g. T-34C, T-35C, T-35D), but this study has confirmed the high level of parking utilization and extended stay beyond time-limits observed throughout the day in the downtown; the same result is documented in another recent, more comprehensive study (Deakin et. al) of street parking. Finally, there is a source of federal funding to support a test and careful evaluation of such a pricing strategy via the FHWA Value Pricing demonstration program which,

while not essential to a test of graduated pricing, could enhance both implementation and evaluation.

Specifically, Berkeley would benefit from a test of graduated or progressive pricing on Shattuck Avenue as it is a heavily utilized main commercial street and has pay display meters easily programmed for progressive rates, according to the meter manufacture. A progressive pricing test could be mounted at pay display machines there and evaluated for impacts, revenues, enforcement and acceptance. Based on the convenience of these spaces, they can be priced to encourage short-term use by customers through elevated hourly parking rates comparable to the progression of off-street rates. In addition, pay-and-display meters programmed in a similar fashion can be added to the streets with highest demand just off Shattuck Avenue, thereby encouraging use of off-street facilities. Some fixed and/or lesser rate meters on surrounding streets might be considered where long term parking is acceptable. Further, selected neighborhood streets might be open to long term commuter parking on one street side by pay-and-display. In this case, in-car hanging permits may be an alternate method of implementing this type of program if pay-and-display meters are not attractive to residents. The overall goal is to provide maximum opportunity for long term parkers at core area meters to shift off street, lowering competition with shoppers and business visitors.

The chief goal in setting new progressive pricing on Shattuck Avenue (and on any new pay-and-display machines added near Shattuck) is parity between on- and off-street rates. Specifically, pricing for beyond the first or second hour catering to shoppers should be comparable to rates for nearby off-street facilities to discourage meter feeding activity beyond time limits. The following illustrates current pricing (by hour) for off-street parking in the Center Street, Oxford, and the Golden Bear:

Table X-X
Off-Street Parking Facility Hourly Parking Rates

Facility	First Hour	Second Hour	Subsequent Hour
Center Street	$1.00-$1.50	$1.50-$3.00	$6.00 (3 hours); $10.00 (4 hours); $15.00 (4+ hours)
Oxford	$1.00	$3.00	$6.00 (3 hours); $10.00 (4 hours); $15.00 (4+ hours)
Private			
Allston Way	$2.50	$2.50	$2.50
The Promenade	$3.00	$3.00	$3.00
Golden Bear	$3.00	$3.00	$3.00

Source: City of Berkeley, 2006.

Based on a review and comparison of off-street hourly pricing for parking in downtown, the City of Berkeley's on-street parking should be priced at no less than $0.75 to $1.00 per hour; at least $1.50 to $3.00 for two hours (to balance shopper needs against feeding disincentive), then follow at least Center and Oxford off-street rates for the remaining hours without limit or with new two to three hour limits. Currently, on-street meters are $0.75 per hour. Revised time limits will ease the difficult enforcement burden of frequently chalking and checking tires to enforce current short term time limits.

An important consideration in setting new rates to discourage meter feeding is to what extent off-street capacity exists to absorb a shift of on-street parkers. As previously noted, Center Street Garage may often have up to 100 space capacity to absorb parkers shifting there. With about 260 pay display meters downtown, Center alone could absorb a considerable proportion of possible feeders at these machines. Consequently, good potential exists for a robust test of how progressive pricing might reduce meter feeding at pay display areas. Of course, the objective of progressive pricing is not merely to shift parkers off street but to alternatives to SOV driving, all of which could be tracked by careful evaluation.

Another consideration in setting the new rates is what other nearby jurisdictions charge on-street and how off-street and recommended on-street progressive rates compared to BART fares. Recommended on-street progressive rates are not markedly different from those at major, nearby city centers. San Francisco rates are $2.50 to $3.00 per hour downtown while Oakland is $1.25 per hour. As such, the suggested rates are competitive with these jurisdictions. Additionally, average weekday roundtrip BART fares at East Bay stations range from $5 to $7[1]. Since these fares are less than recommended on-street rates and parking charges for long term parking off-street Berkeley, BART maintains an out of pocket cost advantage to parking long term in the city.

Parking Technology

The City of Berkeley's current use of pay and display machines within its downtown is one example of how parking technology can be used to implement progressive or graduated parking fees by increasing the fee rate per minute as the duration of the parking increases to discourage long term parking in the commercial areas. Revenues for time period changes and rate increases could be used to pay for the new equipment.

Aside from added and reprogrammed pay and display meters discussed above, other technologies that could be used to improve the parking experience of patrons are worth considering. One is the use of use of stall sensors (4X4 inch stick pads with chips constantly messaging a central computer) to pinpoint overstays, track use and turnover and alert enforcers to problem areas. Sensors may be cost effective for evaluating demand, turnover and violations before and after revised on-street meter rates. Sensors offer the potential to reduce intensive labor survey costs important to an ongoing evaluation. Several startup companies (Spark, Carma, Steetline and Sense) make these sensors, and they are being tested by BART and the Port of San Francisco. Because sensors are not inexpensive, (Streetline quotes cost as $300 per stall and $10 per month for installation, management and regular evaluation reports. See "Parking. Street Smarts," Urban Land, June 2006), the preferred approach is small scale testing initially and careful comparisons with manual survey costs and before and after violation rates. The FHWA VP program can support deployment of this technology as a means of evaluating pricing impacts (the program will support other means as well, including parker, shopper, business, resident and commuter surveys).

[1] Wilson, Richard. "Replacement Parking for Joint Development" (April, 2005).

Parking wayfare signs are another technology already being pursed by the City and important to implement as still another option for long term on street parkers to find and use off-street spaces. The City should keep abreast of such systems in Sacramento, Oklahoma City and St. Paul for latest developments, costs and reliability. A recent survey suggests capital costs ranging from $400K to $950K (See "Characteristics of Recent Wayfinding Projects in the U.S.," Urban Transportation Monitor, May 26, 2006).

Finally, the use of GPS technology is worth exploring. It is now possible for enforcement vehicles to be equipped with GPS-enabled cameras which can then scan license plates to better enforce time limits and fight meter feeding. The cities of Monterey, Chicago and Sacramento are current examples where these smart cameras are being employed ("Parking Meters Get Smarter," SFC, September 5, 2006). Palo Alto employs a handheld rather than minicart version of the device. The benefits of this technology include avoiding the need for chalking and the problem of parkers removing chalk to escape citations.

Off-Street Parking

While a survey of the off-street parking facilities in the downtown area is outside the scope of this study, stakeholder interviews show the importance of considering on-street parking policies in conjunction with off-street parking practices and supply plans. As previously discussed, it is unlikely that on-street pricing changes will be feasible without attention to several off-street issues.

In general, while City revenue data is collected, long term, current, reliable, consistent use data is not so easily forthcoming (for example, Center Street Garage data does not include monthlies after mid 2005). Good tracking of off-street use is essential to assessing impacts of any on-street pricing changes. The City should continuously compile off-street use data and generate accurate, regular, and easily accessible monthly or quarterly spreadsheets summarizing the same. Should the City pursue the FHWA Value Pricing demonstration, regular surveys of public and private off-street (and neighborhood) use will be required and supported.

Furthermore, due to stakeholder perceptions regarding the uncertain nature of ongoing gains and losses of parking supply downtown from development, relocations, and city facility revamps, the City should continuously estimate and update projected supply figures to the best of its ability. Also, existing off-street facilities should be periodically assessed at least every two to three years to document duration and turnover.

Finally, the planned revamp of Center Street Garage should pay heed to possible circulation improvements as well as paint and lighting changes to improve atmosphere for parking. Preliminary recommendations from the Downtown Area Plan process also make this point (DAP memo, August 30, 2006, Bob Wrenn et al.).

Residential Permit Program

While complaints about existing RPP programs apparently are not voluminous, new policies need to be considered for RPP zones closest to downtown under any on-street pricing changes, as some residents see spillover potential from proposed on-street meter pricing. As previously

mentioned above, selected neighborhood streets might be open to long term commuter parking on one street side. This approach will provide legitimate, enforceable options for some long term parkers and provide options also for any current abusers of RPP regulations. On-board hang tag permits might be useful for this purpose if residents prefer them to pay display machines. There are a number of innovative on-board hang tag meters available which click down off prepaid time and are easily enforced. As with core businesses, acceptability of neighborhood pricing in restricted stalls may be enhanced by guarantees for revenues returning to local improvements.